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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,214	06/30/2005	Masanobu Kanamaru	124546	4945

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EXAMINER

BARAN, MARY C

ART UNIT PAPER NUMBER

2857

MAIL DATE DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/541,214

Applicant(s)

KANAMARU, MASANOBU

Examiner

Mary C. Baran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-7 and 9-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-7 and 9-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>14 March 2007</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Amendment***

1. The action is responsive to the Amendment filed on 16 April 2007. Claims 1, 3-7 and 9-12 are pending. Claims 1, 3, 5, 7, 9 and 10 are amended. Claims 2 and 8 are cancelled.

***Specification***

2. A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wellman et al. (U.S. Patent No. 6,212,449) (hereinafter Wellman) in view of Larson et al. (U.S. Patent No. 6,370,455) (hereinafter Larson).

Referring to claim 1, Wellman teaches a vehicle fault diagnostic system (see Wellman, column 2 lines 16-24), which includes a vehicle and an information center that

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are capable of communicating with each other (see Wellman, column 7 line 55 – column 8 line 11), the vehicle fault diagnostic system comprising:

vehicle data detection means that is installed in the vehicle to detect vehicle data (see Wellman, column 4 lines 47-60);

fault detection means that is installed in the vehicle or in the information center to detect a vehicle fault in accordance with said vehicle data (see Wellman, column 4 lines 61-67);

identification process instruction means that is installed in the information center to find arising of the vehicle fault and to instruct the vehicle to perform a fault identification process for identifying the cause of the vehicle fault (see Wellman, column 2 lines 25-30);

identification process execution means that is installed in the vehicle to perform the fault identification process that is instructed (see Wellman, column 2 lines 30-40);

identification process result return means that is installed in the vehicle to return the result identification process to the information center (see Wellman, column 7 lines 55-66);

fault location identification means that is installed in the information center to identify the fault location in accordance with the result of said fault identification process, which is returned from the vehicle (see Wellman, column 8 lines 12-22);

and identified fault countermeasure means that is installed in the information center to take countermeasures against the identified fault (see Wellman, column 6 lines 48-59),

wherein said identified fault countermeasure means includes recovery process instruction means for instructing the vehicle to perform a recovery process for eliminating the influence of the identified fault (see Wellman, column 6 lines 48-59), the vehicle fault diagnostic system further comprising:

process determination means that is installed in the vehicle or in the information center to determine in accordance with the result of said recovery process whether another recovery process should be continued or not (see Wellman, column 7 lines 37-54).

Wellman does not teach a recovery process execution means that is installed in the vehicle to perform the recovery process that is instructed.

Larson teaches a recovery process execution means that is installed in the vehicle to perform the recovery process that is instructed (see Larson, column 8 lines 40-57).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wellman to include the teachings of Larson because having an on-board recovery process would have allowed the skilled artisan to facilitate maintenance, repair and efficient operation (see Larson, column 1 lines 16-22).

Referring to claim 3, Wellman teaches that said recovery process instruction means includes: most serious fault storage means for storing most serious faults (see Wellman, column 7 lines 11-28 and column 7 line 55 – column 8 line 7);

and recovery target limiting means for issuing instructions for performing said recovery process only when a detected fault is one of the most serious faults (see Wellman, column 6 lines 48-59).

Referring to claim 4, Wellman teaches that the said identification process instruction means includes:

serious fault storage means for storing serious faults (see Wellman, column 6 line 60 – column 7 line 10 and column 7 line 55 – column 8 line 7);

and identification target limiting means for issuing instructions for performing said fault identification process only when a detected fault is serious (see Wellman, column 6 lines 32-38).

Referring to claim 5, Wellman teaches a vehicle fault diagnostic system (see Wellman, column 2 lines 16-24), which includes a vehicle and an information center that are capable of communicating with each other (see Wellman, column 7 line 55 – column 8 line 11), the vehicle fault diagnostic system comprising:

vehicle detection means that is installed in the vehicle to detect vehicle data (see Wellman, column 4 lines 47-60);

fault detection means that is installed in the vehicle or in the information center to detect a vehicle fault in accordance with said vehicle data (see Wellman, column 4 lines 61-67);

recovery process instruction means that is installed in the information center to find arising of the vehicle fault (see Wellman, column 2 lines 25-30) and to instruct the vehicle to perform a recovery process for eliminating the influence of the vehicle fault (see Wellman, column 6 lines 48-59);

and process determination means that is installed in the vehicle or in the information center to determine in accordance with the result of said recovery process whether another recovery process should be continued or not (see Wellman, column 7 lines 37-54).

Wellman does not teach a recovery process execution means that is installed in the vehicle to perform the recovery process that is instructed.

Larson teaches a recovery process execution means that is installed in the vehicle to perform the recovery process that is instructed (see Larson, column 8 lines 40-57).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wellman to include the teachings of Larson because having an on-board recovery process would have allowed the skilled artisan to facilitate maintenance, repair and efficient operation (see Larson, column 1 lines 16-22).

Referring to claim 6, Wellman teaches that said recovery process includes:

most serious fault storage means for storing most serious faults (see Wellman, column 7 lines 11-28 and column 7 line 55 – column 8 line 7);

and recovery target limiting means for issuing instructions for performing said recovery process only when a detected fault is one of the most serious faults (see Wellman, column 6 lines 48-59).

Referring to claim 11, Wellman teaches that said fault identification process includes a plurality of inspection modes (see Wellman, column 5 line 66 – column 6 line 5), and wherein said fault location identification means includes identification process completion means, which determines that the fault identification process is completed when a fault location can be identified in accordance with a fault identification process result that is returned from the vehicle;

and identification process continuation means, which causes said identification process instruction means to instruct the start of an inspection mode corresponding to the result when the fault location cannot be identified in accordance with said result (see Wellman, column 8 lines 12-56).

4. Claims 7-10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wellman et al. (U.S. Patent No. 6,212,449) (hereinafter Wellman) in view of Larson et al. (U.S. Patent No. 6,370,455) (hereinafter Larson) and in further view of Chou et al. (U.S. Patent No. 6,330,499) (hereinafter Chou).

Referring to claim 7, Wellman teaches a vehicle fault diagnostic system (see Wellman, column 2 lines 16-24), which includes a vehicle and an information center that



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are capable of communicating with each other (see Wellman, column 7 line 55 – column 8 line 11), the vehicle fault diagnostic system comprising:

fault characteristic value detection means that is installed in the vehicle to detect a fault characteristic value stemming from arising of a particular fault (see Wellman, column 4 lines 47-60);

wherein the recovery process instruction means that is installed in the information center to instruct the vehicle to perform a recovery process for eliminating the influence of said fault whose information is supplied from the vehicle (see Wellman, column 6 lines 48-59);

and process determination means that is installed in the vehicle or in the information center to determine in accordance with the result of said recovery process whether another recovery process should be continued or not (see Wellman, column 7 lines 37-54).

Wellman does not teach a recovery process execution means that is installed in the vehicle to perform the recovery process that is instructed; a fault seriousness determining means for determining the serious degree of detected said fault in accordance with the magnitude of said fault characteristic value; and supplying detected information only when said serious degree exceeds a judgment value.

Larson teaches a recovery process execution means that is installed in the vehicle to perform the recovery process that is instructed (see Larson, column 8 lines 40-57).

Chou teaches a fault seriousness determining means for determining the serious degree of detected said fault in accordance with the magnitude of said fault characteristic value (see Chou, column 6 line 55 – column 7 line 3); and supplying detected information only when said serious degree exceeds a judgment value (see Chou, column 4 lines 44-61).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Wellman to include the teachings of Larson because having an on-board recovery process would have allowed the skilled artisan to facilitate maintenance, repair and efficient operation (see Larson, column 1 lines 16-22), and to further include the teachings of Chou because determining the severity of a fault value would have allowed the skilled artisan to provide a user with an alarm or warning indicating the severity as well as a recommended course of action (see Chou, column 4 lines 54-61).

Referring to claim 9, Wellman and Larson teach all the features of the claimed invention except that said supply information limiting means supplies information including said fault characteristic value to the information center as the information about said fault, and wherein said recovery process instruction means includes urgency judgment means, which, when the information about said fault is supplied from the vehicle, judges in accordance with said fault characteristic value whether the fault should be recognized as an urgent fault; and recovery target limiting means for issuing

instructions for performing said recovery process only when said fault whose information is supplied from the vehicle is urgent.

Chou teaches that said supply information limiting means supplies information including said fault characteristic value to the information center as the information about said fault, and wherein said recovery process instruction means includes urgency judgment means, which, when the information about said fault is supplied from the vehicle, judges in accordance with said fault characteristic value whether the fault should be recognized as an urgent fault; and recovery target limiting means for issuing instructions for performing said recovery process only when said fault whose information is supplied from the vehicle is urgent (see Chou, column 4 lines 39-67).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Wellman and Larson to include the teachings of Chou because determining the recovery process based on the urgency would have allowed the skilled artisan to provide a user with a report of which faults need to be fixed immediately as well as assess if the user has time to take the vehicle in for repairs.

Referring to claim 10, Wellman teaches identification process instruction means that is installed in the information center to instruct the vehicle to perform a fault identification process for identifying the cause of said fault whose information is supplied from the vehicle (see Wellman, column 2 lines 25-30);

identification process execution means that is installed in the vehicle to perform the fault identification process that is instructed (see Wellman, column 2 lines 30-40);

identification process result return means that is installed in the vehicle to return the result of said fault identification process to the information center (see Wellman, column 6 lines 48-59);

and fault location identification means that is installed in the information center to identify a fault location in accordance with the result of said fault identification process, which is returned from the vehicle (see Wellman, column 8 lines 12-22).

Referring to claim 12, Wellman and Larson teach all the features of the claimed invention except a fault distance estimation means that is installed in the vehicle or in the information center to estimate the travel distance remaining before a fault occurs in the vehicle in accordance with said vehicle data; and either fault distance display means for displaying said travel distance remaining before a fault occurrence within the display or fault distance transmission means for transmitting said travel distance to a vehicle maintenance factory.

Chou teaches a fault distance estimation means that is installed in the vehicle or in the information center to estimate the travel distance remaining before a fault occurs in the vehicle in accordance with said vehicle data; and either fault distance display means for displaying said travel distance remaining before a fault occurrence within the display or fault distance transmission means for transmitting said travel distance to a vehicle maintenance factory (see Chou, column 3 lines 47-61).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Wellman and Larson to include the teachings of Chou because

having a fault distance estimation means would have allowed the skilled artisan to notify the user if the vehicle has the potential to make it to a service center, or if the vehicle needs to be towed in for maintenance.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1, 3-7 and 9-12 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues that Wellman does not teach a "recovery process execution means that is installed in the vehicle to perform the recovery process that is instructed." However, this limitation is now met by the teachings of Larson. Larson teaches a recovery process execution means that is installed in the vehicle to perform the recovery process that is instructed (see Larson, column 8 lines 40-57). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wellman to include the teachings of Larson because having an on-board recovery process would have allowed the skilled artisan to facilitate maintenance, repair and efficient operation (see Larson, column 1 lines 16-22).

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sampath et al. teach systems and methods for failure prediction, diagnosis and remediation using data acquisition and feedback for a distributed electronic system.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary C. Baran whose telephone number is (571) 272-2211. The examiner can normally be reached on Monday to Friday 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on (571) 272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mary Catherine Baran  
8 July 2007

*Hal Wachsman*  
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